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ON

STOMACH AND NERVOUS DISORDER,

AS CONNECTED WITH THE

OXALIC DIATHESIS.

BY

JAMES BEGBIE, M.D., F.R.S.E.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

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ON STOMACH AND NERVOUS DISORDER.¹

Read to the Medico-Chirurgical Society of Edinburgh, June 6, 1849.)

THERE is a class of patients,—a numerous class it is,—composed chiefly of those in the prime of life, and including more males than females. They are the subjects generally of the sanguine or melancholic temperament; men unaccustomed to laborious or active exertion, usually belonging to the upper classes, and accustomed to indulge in the good things, particularly the *sweets* of the table. They present themselves as sufferers from indigestion, from its mildest to some of its most aggravated forms; often with no disorder apparently, but the uneasiness arising from imperfect digestion, and languid assimilation, a sense of load at the pit of the stomach, with flatulence and palpitation some hours after a meal. Oftener, however, they have sufferings of a more severe kind, referable not to the digestive organs alone, but influencing very seriously the nervous system, and threatening the mental condition of the patient. They are usually peevish, sensitive,

¹ It is not my intention to speak now of *Oxaluria* in general. I am aware that the oxalate of lime is found in the urine, under circumstances apparently very different from those here described. That it is found in all ages, and in both sexes, and in different conditions of life. That it is found as the immediate exciting cause of a fit of gravel, where no mal-assimilation has prominently manifested itself; and that the records of public institutions for the management of the insane show, that it is very common in the urine of those suffering under melancholia. I limit my remarks at present, to a class of cases, of a well-marked character, in which its presence is a prominent feature, and from which important indications of diagnosis and treatment may be drawn.

and irritable, or dull, desponding, and melancholic. At times full of gloomy fears and dark forebodings, they are painfully distrustful of their own powers; suspicious of some lurking disease,—especially pointing to consumption or disease of the heart, as the source of their apprehensions; and from the dread of some threatened evil, they are not unfrequently hurried to the brink of mental derangement. In the milder forms, there is in these patients the anxious countenance and the look of ill health, a loaded tongue, a dry skin, and an irritable pulse. In the more confirmed, a dingy dark complexion, perhaps a red and tender tongue, with growing emaciation, falling off of the hair, eruptions of the scaly kind, sometimes of boils or carbuncles, pain of a dull but deep-seated kind in the back and loins, hemorrhage from the bowels and bladder, incontinence of urine, and complete prostration of the virile powers¹. The progress of these evils may be varied and slow; under diet and regimen with pure country air, it may be checked and controlled; under medicine it may be entirely arrested;—but if neglected or maltreated, the malady will assuredly subject its victim to the sufferings and perils of stone in the kidney or bladder, or the still more serious consequences of malignant organic disease.

Such are the miseries that flow from the oxalic diathesis;—from a poison generated during the process of digestion and assimilation, carried into the blood through the ordinary channels, but limited in its pernicious consequences by the busy agency of the urinary organs, in separating it from the circulation, and discharging it from the system. By this process of elimination, we are enabled to detect the offending matter in the urine, in the form of the oxalate of lime, by tests at once simple and satisfactory, and are thus prepared with a plan of treatment, equally simple and successful in mitigating the pains and miseries of the patient, and in gradually subduing and ultimately removing the diathesis, which has been their lasting source.

These views have been well illustrated in the writings of Prout, Golding Bird, and others; and every day's experience confirms their truth and their importance. But it is still to be regretted that the careful examination of the habitual qualities of the urine, with the view of detecting those morbid conditions of the secretion, which originate in imperfect digestion, and defective assimilation, is so much neglected by those who seek to palliate or cure the sufferings of the dyspeptic, or the miseries of the hypochondriac; and that the victims of these sad and painful maladies, are too often left to run the endless, hurtful, and cruel round of routine practice; to experience, perhaps, a mitigation of one set of symptoms, at the expense of an aggravation of another; to exhaust the list of remedies, and the list of advisers; and to fall into the hands of the ignorant or designing

¹ These latter symptoms I have seen in several instances accompanied by feebleness and loss of power of the lower limbs, such as to lead to the suspicion of permanent paraplegia.

empiric, to the injury of themselves, and the disparagement of the profession.

With the view of lessening these evils, and recommending a still more careful examination of the urine in dyspepsia, and thus averting the many serious lesions which result from its continuance, I venture to submit the following histories to the consideration of the Society.

I. A clergyman, aged 36, of sanguine temperament, and spare habit, studious and devoted to his profession, which he had exercised for many years in North America, applied to me at the close of October 1845, for the relief of symptoms of stomach affection, under which he had laboured for many years. He was highly dyspeptic and nervous, and in his adopted country had been treated actively for "bile" and "liver," and had undergone, by different hands, a variety of prescriptions, from the mild anti-bilious pill to the large and salivating doses of mercury, with only one effect,—the aggravation of his sufferings. After long trial, and many disappointments, he was forced to relinquish his calling, and return to Scotland, in shattered health, and broken spirits. On his arrival, at the date referred to, he was pale and emaciated, and indications of mental and bodily suffering were discernible in his countenance and manner. His appetite was depraved, and he ate largely. He suffered from flatulent distension, and irregular beating of the heart; from langour and lowness of spirits; from restless nights, and troubled dreams; from unrefreshing sleep, and anxious awakings. He was incapable of mental application, and had well-nigh abandoned the hope of restoration to his duties, and to health. His skin was dry and parched; his tongue loaded; his bowels irregular, and the dejections unhealthy. His urine, which hitherto had not been examined, was of a deep amber colour,¹ and perfectly transparent, possessing a peculiarly rich smell, and a sp. gr. of 1.028. It was of acid reaction, slightly phosphatic, and contained urea in excess. Under the microscope, which alone can determine satisfactorily the presence of the oxalate of lime, a large number of the characteristic crystals of that deposit were discovered, and the treatment pursued was in accordance with the principles and practice maintained by Dr Prout, in the management of that diathesis. The bowels were cleared by repeated doses of gentle laxatives; the diet was regulated so as to exclude, as much as possible, all saccharine materials,—and milk, farinaceous vegetables, and animal food in small quantity, enjoined. Tepid sponging and warm clothing were also recommended, and the nitro-muriatic acid in doses of twenty drops twice or thrice a day, prescribed.² On the 25th of November, nearly four weeks from the commencement of this mode of treatment, the urine was again examined and found of sp. gr. 1.024, while it maintained the former characters, both under the eye, in glass vessels, and under the microscope. The general appearance of the patient, however, was somewhat improved, and the dyspeptic and nervous symptoms were less distressing. A steady perseverance in the same mode of treatment was enjoined. On the 18th December, the urine was of a straw colour;

¹ For a correct account of the characters of the urine containing the oxalate of lime, see a paper by my son, Dr J. W. Begbie, in the "Monthly Journal" for March 1847.

² I have generally adhered to the following formula, omitting occasionally the syrup and increasing the water.

℞ Acid. Nitric. Dil.
 — Muriatic. Dil.
 Syrup. Aurant \bar{a} ʒss.
 Aquæ ʒiss. Misc.

Sig.—A tea-spoonful, mixed in a wine-glassful of water, before meals.

of acid reaction, of sp. gr. 1.024 ; unaltered by heat or nitric acid, and presenting under the microscope fewer crystals of the oxalate of lime, together with some of those of lithic acid. The symptoms in general were mitigated ; but as the patient complained of gastralgia, and the urine was more decidedly acid, the former prescription was intermitted, and ten grains of the white bismuth ordered to be taken three times a-day ; and the same attention to diet, regimen, bathing, and clothing, as heretofore, continued. In the beginning of January the nitro-muriatic acid was resumed. On the 31st the urine brought for examination contained a considerable deposit of the lithate of ammonia, and readily cleared on the application of heat. It was still of high specific gravity, 1.025, and of acid reaction ; while under the microscope the crystals of the oxalate of lime were fewer in number, and less in size. The nitro-muriatic acid was again suspended. Digestion being now performed with less uneasiness, and the general appearance of the patient improved, while his nervous symptoms were much abated, he was allowed, at his own request, to occupy the pulpit of a brother minister from time to time ; and finding that he could satisfactorily discharge such duties, his spirits and health correspondingly advanced. He was ordered to use, alternate months, a vegetable bitter infusion, with the addition of the carbonate of potass, when the lithic acid was in excess, and the nitro-muriatic acid as formerly. Under this plan he gradually recovered flesh and strength, and presented, both in body and mind, the indications of renovated health. The improvement kept pace with the progressive diminution of the oxalate of lime in the urine, and when the peculiar diathesis appeared to be subdued, which happened within a twelvemonth from the commencement of treatment, he was able to resume his ministerial duties, and has for some time been settled in the west of Scotland, the pastor of a numerous flock, and the comforter and adviser of a populous parish.

II. A gentleman, aged 35, attached to no profession, accustomed to regular exercise, and rather luxurious in his habits ; of sanguine temperament and strumous habit ; about the beginning of 1844, according to his own account, began to complain of indigestion, characterised by loss of appetite and strength, by frequent perspirations over the forehead, on making slight muscular exertions, and by increasing emaciation. A papular eruption appeared on the chest and between the shoulders, and continued more or less for eighteen months. This was accompanied by an uneasy sense of weight at the pit of the stomach, loaded tongue, restless unrefreshing sleep, and great anxiety of mind. At this time he left Edinburgh, with the view of a permanent residence in the north of England, and in the hope of the enjoyment of better health. He was however disappointed, and after a trial of five months of the climate and practitioners of the south, he returned to his former home, depressed in mind and wasted in body. I saw him towards the end of October 1845, a miserable dyspeptic, and hypochondriac ; suffering from headache, flatulence, and palpitation ; from constant restlessness of mind, and painful anxiety regarding the future ; ever desirous of change, but never attaining the desired haven. He was particularly suspicious of the presence of consumption, or disease of the heart. His tongue was furred ; his bowels constipated ; the evacuations discoloured, and frequently mixed with blood. He complained of pain in the region of the liver, and of numbness of the right arm. His skin was dry and parched, his eyes suffused and painful, and his hair falling out. He complained of a "lanky feeling" about the loins and abdomen, of uneasiness in the region of the bladder, and of the loss of all sexual desire. His urine, at this time, was of high amber colour, and of sp. gr. 1.040 ; of acid reaction, and with excess of urea. Under the microscope there were large numbers of the octohedral crystals of the oxalate of lime and much epithelial matter. He was ordered repeated doses of castor oil, a simple diet of farinaceous food, warm clothing, tepid sponging of the skin, and the nitro-muriatic acid. On the 25th of November, the urine was of sp. gr. 1.036, and

still loaded with numerous crystals of the oxalate of lime. The general symptoms had undergone little change. On the 18th December, the urine was loaded with the lithate of ammonia, and the crystals of the oxalate of lime were less numerous, the sp. gr. was 1·030; the dyspeptic and nervous symptoms were less severe. He was ordered to intermit the acids, and to use an infusion of snake root, with small doses of the carbonate of potass. On the 8th of January 1846, the crystalline deposit, as seen under the microscope, was still undiminished, and was mixed with a few crystals of lithic acid. There was little amendment in the general symptoms. The snake root was intermitted, and the nitro-muriatic acid resumed. On the 22d February the oxalate of lime had considerably diminished, and the lithic acid increased, the bowels were more easily managed, the tongue had improved, and the dyspeptic and nervous symptoms were less urgent. He was ordered to alternate monthly, the use of the acids, and the vegetable infusion. On the 5th April the oxalate was much diminished, and the lithate of ammonia seen in large quantity. He was ordered to persevere, and on the occurrence of warm weather to seek the country, and country sports. On the 3d of August the sp. gr. of the urine was 1·026, it was of straw colour, and contained numerous crystals of lithic acid, and a few only of oxalate of lime. The acid was intermitted for two months. On the 12th November the lithic acid had disappeared, but the octohedral crystals were present in considerable numbers and of large size. The acid was resumed. During November and December the oxalate diminished in number and size, the patient gradually improved in looks and spirits; he regained his lost powers; his skin became soft and smooth; the blood disappeared from his stools; his manner and conduct indicated that he no longer thought *only* of himself and his ailments, and in the course of a few more months, under the cod liver oil, he regained his lost flesh, and acquired new health. He has long since ceased his attendance on me, but I have frequent opportunities of observing his studious observance of those rules of diet, regimen, and exercise, which I hope will exempt him from the perils and sufferings of the oxalic diathesis.

III. A gentleman, aged 45, educated for the bar, but inheriting a patrimonial estate, to the management of which he was more devoted than to professional pursuits; inheriting also a predisposition to gout and cerebral disease, accustomed to a full table, and not indisposed to avail himself of his opportunities—particularly, it had been observed, in the matter of sweets;—had been a patient sufferer from indigestion during a series of years, in which he contrived, by a temporary abstinence, and the frequent use of Gregory's mixture, or some such household remedy, to allay the more pressing symptoms of his malady. He began, however, to be subject to boils, and to ailments of a gouty-rheumatic character, and became the subject of professional discipline. After trial of many remedies for an obstinate attack of a rheumatic kind, affecting chiefly the loins and lower extremities, and involving (according to the opinion of those to whom we are accustomed to submit with deference) the coverings of the spinal marrow, he was cured by the powerful agency of arsenic, and for some time continued in fair health. In the beginning of 1846, however, having relaxed the rules of diet and regimen prescribed as essential for him, he experienced a return of his dyspeptic ailments, accompanied with much depression of mind, and anxious and fearful prospects of the future; he lost looks and flesh; his clothes, to use a common expression, "hung upon him;" he shunned company, and regarded himself as "a victim." His tongue was foul; his pulse irritable; his bowels irregular. He was still a gross eater, and suffered from flatulent distention, giddiness and palpitation. He became again the subject of boils and carbuncles, affecting chiefly the trunk and thighs; these were tedious in suppurating, and slow to heal. He complained of uneasiness in the region of the bladder, which frequently lost its power of retention; and of pain and heaviness across the back and loins. His urine presented the characters of oxaluria; it was of high amber colour, and without sediment, of sp. gr. 1·030,

and disclosed, under the microscope, numerous crystals of the octohedral form. He was placed under a diet suitable to his diathesis, and a persistent use of the nitro-muriatic acid was enjoined ; a tepid salt water shower bath and warm clothing were added as powerful auxiliaries. Under this mode of treatment he made rapid progress towards recovery ; his boils—long languid—began to heal ; his skin—long torpid—became soft and perspirable ; his tongue cleaned ; his pulse improved ; his appetite—long restrained—returned to rules of health ; he lost his dull despondency ; he lost his irritability of bladder ; he lost the oxalate of lime in the urine ; he acquired the look of returning health ; he acquired fresh spirits ; and, before many months were over, he acquired, under the use of that valuable remedy—the cod-liver oil—both flesh and strength, which he preserves uninterruptedly to this day.

It were easy to multiply cases of this description, the record of which I have preserved ; but it may be sufficient, in the further illustration of the subject, to limit the attention of the Society to the history of one other, in which the progress and termination were sadly different.

IV. Some twenty-five years ago, I formed the acquaintance, and became the professional adviser, of Mr D—, a practitioner of law, of a few years standing. He was a young man of superior talent, of persevering industry, and studiously devoted to his profession, in which he was destined to take a high place ; but he was early in life the subject of dyspeptic derangement, and from this cause, and the irritability of temper, which so often accompanies it, his path was crossed and his prospects somewhat clouded. His energy of character and constitution of mind enabled him to surmount many difficulties, and he was still found contending against uncertain health and desponding spirits. During many years he was subjected to the discipline considered essential to the cure of indigestion and its consequences, and to those regulations of diet and regimen which experience had proved useful in such affections. He enjoyed the occasional advice of men eminent in the profession, and went the round of antidotes for the varying features of his multiform complaints ; contriving to prosecute his sedentary profession, cheered and invigorated at one time, by the relaxation and enjoyments of a country life, and depressed and exhausted at another, by the toils and anxieties of the Parliament House. His malady though obstinate, had produced no serious lesion, and his life, on more than one occasion, had been pronounced eligible for assurance, and selected accordingly.

Years passed away, and he was still a dyspeptic. I regret that at that time I had not yet turned my attention to a careful examination of the urine in his class of ailments, as, I doubt not, it would have elicited much valuable information in regard to their nature, and assisted materially the successful treatment of the case. Mr D— passed from under my charge, he passed into abler hands, and, under the care of the late Dr Davidson, his symptoms underwent all that patient investigation which our friend was accustomed to exercise, and profited by that extensive knowledge which he was well known to possess. But after years of treatment, he was still a growing dyspeptic. Under the names of acute and chronic, of nervous and irritative dyspepsia, his ailments had been tried by a variety of remedies, but they had all failed to effect a cure. He fell into the hands of the homœopathist, and there for a time he rested, and fancied he obtained relief. It was not, however, lasting or complete. The globules of the followers of Hahnemann, and the regimen which accompanies them, were found, after a fair trial, to have accomplished nothing, beyond what the full doses and the varying dietetics of the regular practitioner had as yet effected. Hydropathy and the German Spas remained to be tried. I met him in the summer of 1845, on the outskirts of the city, on his way to embark for the Continent. He was pale and emaciated, and in his countenance I thought I

could discern the lineaments of organic disease. I urged him strongly to remain for a time in London, and consult Dr Prout, having, by this time, become sensible of the value of those discoveries with which his name is so much associated, and strongly impressed with the belief that my former patient was the subject of oxaluria. He neglected, for a time at least, the advice thus proffered; he proceeded to the Isle of Wight, and there spent some time at the water cure; but after a while, he returned to his native county in the north of Scotland, a hopeless dyspeptic and hypochondriac. It was then that a near relation of his own, belonging to the medical profession, thought it desirable to transmit to the eminent physician referred to, a written statement of Mr D—'s case. It was followed by a speedy reply, in which he expressed his decided opinion that the patient was suffering from the oxalic diathesis, and suggested a careful analysis of the urine, with the view of establishing the point. The examination confirmed the correctness of the view taken, and the patient was directed to the mode of treatment suitable to his case, including, among other means, the use of the nitro-muriatic acid. In a few months he made remarkable progress, and towards the close of the year he returned to Edinburgh with his health apparently completely re-established. I saw him immediately on his return, and was much struck with the great change in his appearance. He had indeed the look of health; and, in reply to all questions touching his former symptoms, assured me, that one and all had disappeared under the use of the acids which he had persistently employed for many months. He now returned to his professional duties, in which he engaged with renewed energies, and in prosecuting which he spent the depth of winter and the early weeks of the ensuing spring of 1846. During the months of January and February, however, he had been remarked to have fallen off in looks and flesh, and had shown a marked susceptibility to cold. On the 11th of March, in consequence, as it was supposed, of such exposure some days previously, he suffered from a febrile attack, accompanied by short dry cough, and was for the first time confined to the house. There were no symptoms present of an inflammatory character, but percussion discovered considerable dulness over the upper part of the left side, and auscultation failed to elicit the natural respiratory murmur. The symptoms, however, which occasioned most suspicion were the presence of considerable œdema of both ankles, and the coagulability of the urine by heat and nitric acid. The urine was still of amber colour, and of sp. gr. 1·018, and under the microscope disclosed a few crystals of the oxalate of lime. These latter characters, however, gradually disappeared, it became pale and serous, and of lower specific gravity; œdema of the ankles increased; dyspnœa and cough, accompanied with expectoration, came on; he was annoyed and exhausted by urgent diarrhœa; and was seized, on the 8th April, with pleuropneumonia of the upper lobe of the right lung, with great dyspnœa and restlessness, and he died on the 11th, exactly one month from the commencement of the fatal illness. Examination on the following day discovered those lesions, the existence of which might readily have been foretold by the symptoms during life; but it revealed the absence of others which might well have been expected to have presented themselves during the progress of a long-standing affection of the stomach. The upper lobe of the right lung was the seat of recent inflammation; it was condensed, the pleura inflamed and covered with recent lymph. The left lung was adherent to the ribs by old effusion; the upper lobe hepatized in part, and here and there studded with tubercles of considerable size, some of which had passed into the suppurative stage. Both kidneys were enlarged, pale, and waxy; the right, at its inferior edge, was the seat of a malignant fungoid growth, of the size of a large walnut. The stomach and bowels, which were carefully traced and minutely examined by Dr Spittal, who kindly conducted the dissection, were remarkably free from disease.

This is a painful and instructive history. It has its parallel in many of every day occurrence;—cases in which deranged digestion

and mal-assimilation have loaded the circulating fluids with impurities which have poisoned the health, enfeebled the nerves, and thrown an oppressive weight of duty on the kidneys and other emunctories. Over-taxed by the extra work, these last have become themselves the seat of irritation, congestion, and chronic inflammation ; passing ultimately into that degeneration by which these organs refuse their office, thus loading the blood still more with those noxious particles they are unable to remove, and exposing the system to the risk or certainty of those intercurrent affections of dropsy and diarrhœa, of pleurisy and pericarditis, and many others, which, sooner or later, perhaps suddenly hurry on the fatal issue.

The remarkable and complete remission which took place in all the prominent symptoms of the case, after the administration of the acid treatment, is a striking feature in Mr D—'s history. No doubt the means employed overcame the oxalic diathesis, and the assimilating functions were restored to a normal condition ; but still, I apprehend, that the fatal event was intimately connected with their previous long-continued disorder, and that even during the period of convalescence and temporary recovery, changes in the organic structure of the kidneys had commenced, which attained their full development, when the secondary inflammation in the chest indicated that the renal apparatus could no longer serve to eliminate from the blood, the urea and other impurities with which it was overcharged. These views receive a full confirmation from our knowledge of the progress of other renal affections, and particularly of that of Bright's disease, as well as from observation of the course of rheumatic fever in engendering the secondary inflammations of the membranes of the heart and lungs, which so very often are characteristic features of that disease.¹

It has been alleged,—and I apprehend that the opinion is very generally entertained,—that the deposit in the urine of the oxalate of lime is of rare occurrence, and that the morbid condition of the blood in which it originates cannot be considered as identified with the ordinary forms of indigestion. On the contrary, I am clearly of opinion, that the deposit in question is of very frequent appearance, and that its continuance in the urine marks a peculiar diathesis which must have resulted from mal-assimilation, characterised by more or less of that train of symptoms detailed in the foregoing histories. These cases occurred to me in practice along with several others, all within a short period of each other ; and taking a retrospective view of the sufferers from stomach and nervous complaints by whom I have been consulted during the last five years, I find that the large proportion of them have been the subjects of the oxalic diathesis ; and that the dyspeptic and hypochondriac symptoms have yielded and

¹ See an admirable paper by Dr Taylor in the 28th volume of the "Medico-Chirurgical Transactions" of London.

disappeared, just in proportion to the diminution and retirement of the oxalate of lime in the urine. The indigestion and mal-assimilation which result in the *lithic acid diathesis*, and which are exemplified in gout and rheumatism, in febrile and inflammatory ailments, are, no doubt, of more frequent occurrence, but it is comparatively seldom that we have to deal with these as a form of dyspepsia, the primary disorder being generally overlooked in the more pressing urgency of other symptoms which follow in its train. The symptoms, again, which denote the *phosphatic diathesis*, though generally regarded as belonging to indigestion, are by no means so marked or so common as those connected with the oxalic poison, and are characterised by more serious disorder of the brain and spinal marrow. Many of the most obstinate and severe headaches which we are called to treat in young women, and in those of a certain age, and which are usually regarded as nervous and dyspeptic, are dependent on this diathesis, and yield only to a plan of treatment by which the mal-assimilation is corrected, the blood purified, and the earthy salts removed from the urine.

The truth of the ancient adage, that “the knowledge of a disease is half its cure,” is more than confirmed in the diagnosis of the oxalic diathesis; for, as certainly as we discover the persistent presence of the characteristic crystals in the urine, so certainly do we possess the means of cure in appropriate diet and suitable remedies, unless where long neglect of functional derangement has led to incurable organic disease. I take leave to point to the three cases first detailed, in confirmation of this statement, and as affording a great encouragement to all who are subjected to the vexations and disappointments inseparably connected with the management of the chronic dyspeptic and hypochondriac; and would even point to the last and fatal case of Mr D—, as at once a beacon and an encouragement, for that too bore testimony to the efficacy of the same treatment, which was adopted, unhappily, too late to save life, though not too late to renovate the health, and prolong the days, already doomed to be broken and cut short by the insidious yet resistless progress of malignant organic disease.

